

A new species of *Faughnia* from the Western Indian Ocean (Crustacea, Stomatopoda)

by Raymond B. MANNING and R. R. MAKAROV *

Abstract. — *Faughnia* Serène, 1962, originally recognized as a subgenus of *Pseudosquillaopsis* and subsequently as a subgenus of *Parasquilla*, is elevated to generic rank. A new deep water species from the western Indian Ocean, *Faughnia profunda*, is described.

Résumé. — *Faughnia* Serène, 1962, reconnu à l'origine comme un sous-genre de *Pseudosquillaopsis* puis ultérieurement comme un sous-genre de *Parasquilla* est élevé ici au rang générique. Une nouvelle espèce d'eau profonde, de l'océan Indien occidental, *Faughnia profunda*, est décrite.

The genus *Pseudosquillaopsis* was established by SERÈNE (1962 : 12) for four species that previously had been placed in *Pseudosquilla* Dana, 1852. He recognized two subgenera : *Pseudosquillaopsis*, with *Squilla cerisii* Roux, 1828, as its type-species, and *Faughnia*, with *Pseudosquilla haani* Holthuis, 1959 (as *Pseudosquilla dehaani*) as its type-species. Subsequently, *Faughnia* was transferred to *Parasquilla* Manning, 1961 (MANNING, 1963 : 312), where it was retained as a subgenus (MANNING, 1969 : 279).

Examination of additional material of *Faughnia* and *Parasquilla* (Manning, 1970) leads us to believe that *Faughnia* should be recognized as a separate genus. It is redefined here, and a second species is described from localities in the western Indian Ocean.

The species described below is based on specimens from Madagascar sent to one of us (R.B.M.) by A. CROSNIER, formerly with the Centre ORSTOM, Nosy-Bé, Madagascar, and on specimens from off Mozambique and Kenya made available to one of us (R.R.M.) by B. G. IVANOV, All-Union Research Institute of Marine Fisheries and Oceanography (VNIRO), Moscow. The specimens from Kenya were collected during an expedition sponsored by FAO (Food and Agriculture Organization of the United Nations) on the Russian research vessel "Professor Mesiatsev". These contributions by Drs. CROSNIER and IVANOV are gratefully acknowledged. The figure was prepared by Lilly King MANNING.

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Faughnia Serène, 1962

Pseudosquillopsis (*Faughnia*) Serène, 1962 : 17.

Parasquilla : MANNING, 1963 : 312 [part, transfer of *Faughnia*]; 1969 : 278.

DEFINITION

Body compact, depressed, surface pitted. Cornea bilobed, outer margin of eye longer than inner. Antennal protopod with at most 1 ventral papilla. Rostral plate trapezoidal, broader than long, unarmed anteriorly. Carapace narrowed anteriorly, anterolateral angles produced but unarmed, posterolateral margins rounded, with prominent marginal carinae, latter indistinct dorsally, and with traces of lateral carinae visible posteriorly; cervical groove distinct across midline. Exposed thoracic somites with longitudinal carinae; eighth somite with low median ventral keel. 5 epipods present. Mandibular palp present, 3-segmented. Raptorial claw stout, dactylus with 3 teeth; opposable margin of propodus pectinate, with 3 movable teeth proximally; dorsal ridge of carpus divided into 2 lobes; merus grooved inferiorly throughout its length for reception of propodus; ischiomerall articulation terminal. Endopod of pereopods slender, 2-segmented. Abdomen flattened, each somite with 3 pairs of longitudinal carinae, median and submedians absent on anterior 5 somites. Anterolateral plates of abdomen articulated. Telson with sharp median carina and low dorsal carinae; posterior margin with 3 pairs of marginal teeth, submedians with movable apices; bases of submedian teeth separate; minute denticles present or absent, 2 intermediate and 1 lateral denticle present. Basal segment of uropod with distal, dorsal spine. Basal prolongation of uropod produced into 3 spines, outer longest.

TYPE-SPECIES. — *Pseudosquilla haani* Holthuis, 1959 [replacement name for *Squilla empusa* De Haan, 1844, a junior homonym of *Squilla empusa* Say, 1818], by monotypy.

REMARKS. — *Faughnia* is the Indo-West Pacific counterpart of the Atlanto-East Pacific *Parasquilla*, resembling it in basic features but differing in lacking the recurved part of the marginal carinae of the carapace and in lacking median and submedian carinae on the abdomen as well.

Faughnia profunda new species

(Fig. 1)

MATERIAL. — Off Madagascar; 12°39.8S', 48°15.2'E; 375-385 m; A. CROSNIER, leg.; 14 April 1971: 2 ♂, total length 83 and 108 mm, 5 ♀, total length 82, 96.5, 109, 114 and 115 mm.

Off Mozambique; 25°33'S, 34°45'E; 225 m; B. IVANOV, leg.; May 1966: 2 ♀, total length 113 and 157 mm.

Off Kenya; 03°36.3'S, 40°00.5'E; 251-293 m; B. IVANOV, leg., on RV "Professor Mesiatsev"; January 1976: 4 ♂, total length 123, 127, 134 and 137 mm.

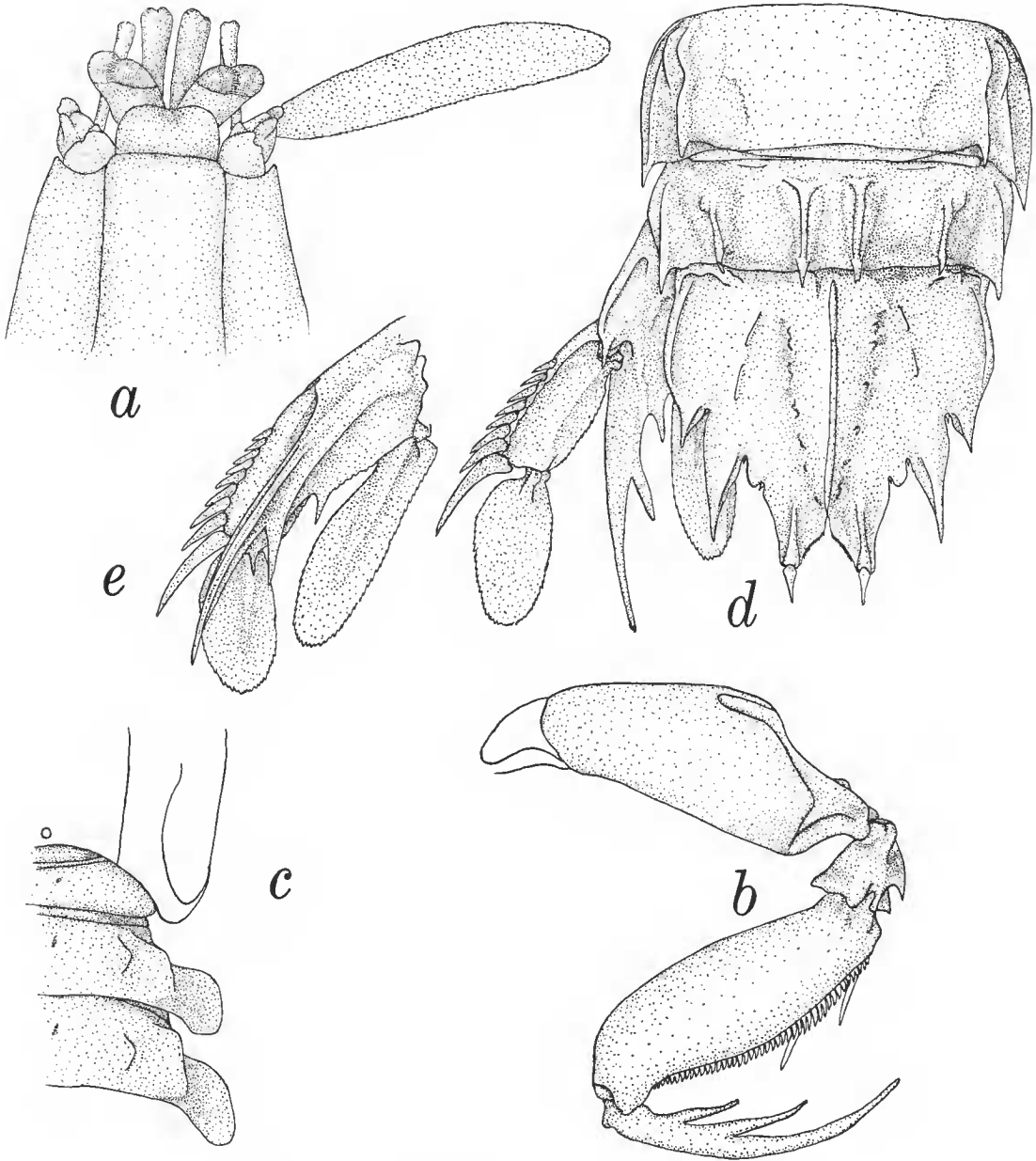


FIG. 1. — *Faughnia profunda* new species, male paratype, TL 83 mm : *a*, anterior part of body ; *b*, raptorial claw ; *c*, lateral processes of fifth, sixth, and seventh thoracic somites ; *d*, posterior two abdominal somites, telson, and uropod ; *e*, uropod, ventral view. (Setae omitted in all figures.)

DESCRIPTION

Size moderate, total length of adults 82-157 mm. Surface of body lightly and irregularly pitted and eroded.

Antennular peduncle shorter than carapace. Dorsal processes of antennular somite low, rounded, covered by rostral plate.

Eye (fig. 1a) strongly bilobed, mesial lobe of cornea the larger. Cornea set very obliquely on stalk, lateral margin of eye longer than inner. Eyes not extending to end of first segment of antennular peduncle. Ocular scales fused into low bilobed plate.

Rostral plate (fig. 1a) unarmed, much broader than long, rectangular, lateral margins and anterolateral angles rounded. Plate with deep median groove anteriorly, appearing notched medially and bilobed anteriorly in dorsal view.

Antennal scale elongate but shorter than carapace. First segment of antennal peduncle extending to or almost to end of first segment of antennular peduncle. Antennal protopod with 1 ventral papilla.

Carapace narrowed anteriorly, unarmed, anterolateral angles acute, projecting anteriorly, appearing spined in dorsal view. Longitudinal carinae absent, but traces of lateral carinae visible posteriorly. Reflected part of marginal carina conspicuous on posterior margin of each lateral plate, not sharply defined dorsally. Cervical groove distinct.

Raptorial claw (fig. 1b) stout. Dactylus with 3 teeth, outer proximal margin with rounded lobe. Propodus fully pectinate, with 3 movable teeth proximally. Dorsal ridge of carpus with 2 sharp teeth.

Mandibular palp and 5 epipods present.

Lateral process of fifth thoracic somite (fig. 1c) usually inconspicuous, concealed completely by carapace, produced into small, rounded, posteriorly- or ventrally- directed lobe. Lateral processes of sixth and seventh somites unarmed, expanded laterally, irregular in shape, that of seventh somite the larger, each process flanked mesially by distinct longitudinal carina. Thoracic somites lacking other carinae.

Anterior 5 abdominal somites (fifth somite, fig. 1d) lacking median and submedian carinae, each with distinct intermediate and lateral carinae, latter oblique to body line, flanked anterodorsally by short longitudinal swelling in some specimens. First somite with well developed submarginal carina, latter less conspicuous or absent on second to fifth somites. Sixth somite (fig. 1d) with paired submedian, intermediate, and lateral carinae. Abdominal carinae spined as follows : submedian 6, intermediate 5-6, lateral 6, marginal (4)-5. Posterolateral angles of each of anterior 4 somites acute, pointed in some specimens. Sixth somite with tubercle or spinule ventrolaterally anterior to articulation of each uropod.

Telson (fig. 1c) slightly longer than broad or with length and width subequal. 3 pairs of marginal teeth present, submedians with movable apices, intermediates and laterals slender, sharp. Median carina flanked by row of tubercles and pits on each side converging posteriorly under apical spine. Dorsal surface of telson with irregular dorsal submedian carinae, separated from sharp marginal carina by curved longitudinal groove of variable depth ; short, low carina present on each marginal tooth ; distinct accessory median carinae

absent, replaced by lines of pits. 2 sharp intermediate denticles, inner set mesial to larger, rounded lobe, and 1 lateral denticle present. Submedian denticles absent in larger specimens, present in variable numbers on smaller specimens (as in figured male), generally decreasing in number with increasing size. Ventral surface of telson lacking postanal keel, with shallow pits on surface, arranged in rows toward midline.

Proximal segment of uropodal exopod (fig. 1c) subequal to distal (measured dorsally), with 8-9 sharp, movable spines on lateral margin, distalmost extending slightly beyond midlength of distal segment. Basal prolongation of uropod (fig. 1e) produced into 3 spines, outer longest, inner with low crenulations on inner margin.

Measurements. — Males, total length 83-134 mm; females, total length 82-157 mm. Other measurements, in mm, of male paratype, total length 83 mm: carapace length 18.6; cornea width 3.4; antennal scale length 15.0; antennular peduncle length 14.2; rostral plate length 2.2, width 4.8; fifth abdominal somite width 17.1; telson length 15.2, width 14.6.

Color. — Male only observed: Mediodorsal surface of body grey brownish, but lateral parts, including posterolateral parts of carapace, lateral plates of free thoracic somites, and all of the abdominal pleura (laterally from lateral carina) dark brown, with reddish tint in some specimens. Latter color characteristic also for gastric region of carapace, apices of antennal scales, and, in general, walking legs and uropods. Marginal setae of antennal scale, distal segment of exopod of walking legs, endopod and distal segment of uropodal exopod red. Posterior part of carapace, posterior margins of free thoracic somites and all abdominal somites orange. Orange color also present on some dorsal pits of abdominal somites, especially anterior ones, but second to fifth somites each with posterior zone of orange color, divided medially on second and third somites, but progressively enlarger and fused on fourth and fifth somites, where they cover more than half of length of somite. Submedian carinae of sixth somite orange. Marginal teeth of telson brown. Lobe on outer margin of dactylus of claw orange. Ventral surface of body generally darker than dorsal; lateral parts of body darkest overall.

REMARKS

Comparison of material of *F. profunda* from Madagascar with a specimen of *F. haani* (female, 108 mm long, taken in 73 m off Hong Kong, USNM 138327) has revealed numerous differences. *Faughnia profunda* differs from *F. haani* as follows: the body is much less rugose, with the surface pits much shallower and less pronounced; the anterolateral angles of the carapace are strongly produced anteriorly; the lateral process of the fifth thoracic somite is shorter and broader, not projecting as far ventrally; the intermediate carinae of both the fifth and sixth abdominal somites are armed; the telson lacks a distinct accessory median carina; and the proximal serrations or tubercles on the inner margin of the basal segment of the uropod are much less distinct.

An additional difference may be found in the condition of the submedian denticles of the telson. In *F. profunda* these denticles are present in the male holotype, the smallest male, and they are absent in almost all of the other specimens, including a female only a millimeter longer than the holotype, as well as in the larger specimens. According to

KOMAI (1927 : 327), submedian denticles are present in two specimens of *F. haani* he examined, a female 107 mm long from Nagasaki and a male 107 mm long from Rotiku, Formosa (Taiwan), and they are present in the female from Hong Kong mentioned above. Their condition was not noted in another specimen of *F. haani* examined, a female, 111 mm long, from Tosa Bay, Japan, in the collection of the Natur-Museum und Forschungsinstitut Senckenberg, Frankfurt-am-Main. That specimen lacked spines on the intermediate carinae of the fifth and sixth abdominal somites.

SERÈNE (1962 : 19) noted that *F. haani* was a relatively rare species, than known from only five specimens. He identified a sixth specimen, taken in the Gulf of Siam, with *F. haani*. That specimen probably represents a third species, which resembles *F. profunda* and differs from *F. haani* in having spined intermediate carinae on the fifth abdominal somite and resembles *F. haani* and differs from *F. profunda* in having unarmed intermediate carinae on the sixth abdominal somite.

LEE and WU (1966 : 44, fig. 2D) recorded *F. haani* from Taiwan, based on three males, 75 to 149 mm long, one of which was taken in a depth of 40-50 fms (73-92 m). Their material is described as having armed intermediate carinae on both the fifth and sixth thoracic somites. However, the intermediate carinae of the sixth somite appear to be unarmed in their illustration (fig. 2D) so they may have been dealing with the undescribed species reported by SERÈNE (1962) rather than with *F. haani* s.s.

TYPES. — The male holotype, TL 108 mm and a female paratype from Madagascar have been deposited in the Muséum national d'Histoire naturelle, Paris (MNHN St 799 and 800). Five paratypes, a male and four females from Madagascar, are in the National Museum of Natural History, Smithsonian Institution, Washington (USNM 169141). The paratypes from Kenya and Mozambique are in the collection of the All-Union Research Institute of Marine Fisheries and Oceanography (VNIRO) Moscow.

ETYMOLOGY. — The name is derived from the Latin, *profundus*, deep, alluding to the occurrence of the species in relatively deep water.

DISTRIBUTION. — Western Indian Ocean, from off Madagascar, 375-385 m, off Mozambique, 225 m, and off Kenya, 251-293 m.

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Manuscrit déposé le 21 juillet 1977.